

WILLIAM M. GARDNER NEW HAMPSHIRE SECRETARY OF STATE STATE HOUSE 107 NORTH STATE STREET CONCORD, NH 03301

New Hampshire Electronic Poll Book System

Request for Information V 0.1

(Subsequent releases anticipated)

Issued

March 10, 2017

*** Vendor Fair Invitation ***

To: Electronic Poll Books Vendors

From: The New Hampshire Secretary of State

What: Vendor fair and demonstration of electronic poll books.

Working Group Presentation: If vendors can set up in under 5 minutes, they will

have power, projector and screen to present to the Working Group (in an adjacent room). Vendors should bring their own laptop for

this purpose.

When: Friday, March 31, 2017, 9:00 AM – 4:30 PM

Vendors granted access to facility: 8:00 AM - 4:30 PM

Vendor appearances before ePoll Books Working Group: 10:00 AM

- 4:30 PM (35 - 50 min, depending on number of vendors)

Where: Legislative Office Building, Third Floor, 33 North State St., Concord,

NH

Host: New Hampshire Secretary of State's ePoll Books Working Group,

consisting of legislators, local election officials (clerks, moderators)

and state election officials

Welcome: Invitations will be issued to legislators and election officials; the

event is open to the general public.

Vendor Fair Facility: Includes power supply and adequate display space in

Vendor Fair Area. If a screen is desired in Vendor Fair area, vendors

must set one up.

Maximum: 10 Vendor locations

To confirm attendance: RSVP via email to Anthony.Stevens@sos.nh.gov

Contact: Anthony Stevens by telephone at (603)271-8241, (603)271-8238, or

by email at Anthony.Stevens@sos.nh.gov

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New Hampshire Electronic Poll Books System

Request for Information

2 Introduction

2.1 Purpose

As a result of interest in electronic poll books demonstrated over the past year, the New Hampshire Secretary of State has initiated a ePoll Books Working Group to establish goals, establish security requirements, identify advantages and disadvantages, identify trade-offs, evaluate vendor capabilities, design trial requirements, and address draft legislation that could help evolve toward the use of electronic poll books. Vendors are asked to make presentations in light of these indicative requirements.

In order to begin the conversation with vendors, this document provides New Hampshire background, describes potential system requirements for an electronic poll book solution that might be used by local jurisdictions in the State of New Hampshire. This version (1.0) is primarily for discussion purposes, but vendors are welcome to respond in a comprehensive manner.

With the help of responses to this RFI and appearances at the March 31, 2017 Vendor Fair, the ePoll Book Working Group expects to draft legislation, recommend requirements, and conduct a preliminary evaluation of vendor capabilities.

2.2 Acknowledgements

Parts of this document were inspired by documents produced from the following sources:

New Hampshire Secretary of State's ePoll Books Working Group meetings, August, 2016 – February, 2017.

Connecticut Secretary of The State by the University of Connecticut's VoTeR Center, issued March 6, 2015:

http://www.sots.ct.gov/sots/lib/sots/ElectionServices/Handbooks/e-poll-book-system-(potential) requirements-1_0c_(2).pdf

Indiana Secretary of State, in association with the Voting System Technical Oversight Program at Ball State University, with January 13, 2016 updates:

http://www.in.gov/sos/elections/4059.htm

Rhode Island Secretary of State's Request for Proposal for Electronic Poll Books issued Jan. 19, 2016 at http://www.bidprime.com/bid/10180461/Rfp+-+Electronic+Poll+Books

Colorado Secretary of State's Request for Proposal for Electronic Poll Books and Balloton-Demand

 $\frac{http://www.sos.state.co.us/pubs/elections/VotingSystems/RFI/Robis\%20 Elections-UVS-RFI response.pdf, and$

Wisconsin's Government Accountability Board's Electronic Poll Book Research – Final Report, issued March 19, 2014:

http://elections.wi.gov/sites/default/files/memo/20/electronic_poll_book_research_recom_mendations__17865.pdf

Minnesota Secretary of State's Electronic Roster Task Force, Findings and Recommendations, issued January 31, 2014:

http://www.lcc.leg.mn/ertf/ElectronicRosterTaskForceFinalReport.pdf

National Conference of State Legislatures – Electronic Poll Books Research:

http://www.ncsl.org/research/elections-and-campaigns/electronic-pollbooks.aspx

Additionally, this document relies on press reports involving electronic poll books.

2.3 Vendor Fair – March 31, 2017

The potential requirements herein have been drafted to promote discussion at the March 31, 2017 Vendor Fair that will include demonstrations at vendor booths and vendor interviews by the Secretary of State's ePoll Book Working Group.

Vendors are encouraged to use the March 31, 2017 event and associated vendor interviews to comment on the indicative requirements herein. Vendors are encouraged to consider and suggest innovative ways to accomplish the goals of these indicative requirements.

At the Vendor Fair, vendors are encouraged to demonstrate their capability to fulfill mandatory and preferred requirements set forth herein, or to suggest alternate ways to accomplish the same goals.

If vendors wish to demonstrate a live voter check-in simulating New Hampshire's Ballot Clerk Procedure and statutory requirements, we suggest vendors create their own dummy list including registered voters' last name, first name, middle name; party; voter ID number; domicile address; and mailing address.

If vendors wish to demonstrate a live new voter addition reflecting election day registration, we suggest vendors create their own dummy list including registered voters'

last name, first name, middle name; party; <u>town/ward</u> voter ID number; domicile address; and mailing address.

2.4 Document Structure

This document is structured as follows.

The **Introduction** section states the purpose of this document, provides a list of references to external material, and outlines document structure.

Following the Introduction section, the **Overall Description** section specifies document semantics and gives an overview of the possible use of electronic poll books in the State of New Hampshire. It is divided into four subsections: **Section 3.1 Electronic Poll Books**, **Section 3.2 Definitions**, **Section 3.3 User Characteristics**, and **Section 3.4 Requirement Format Specification**.

- Section 3.1: Electronic Poll Book introduces electronic poll books and elaborates on their possible use.
- Section 3.2: Definitions defines key terms used throughout this document.
- Section 3.3: User Characteristics explains anticipated user characteristics.
- Section 3.4: Requirement Format Specification section explains how potential requirements are to be read and how potential requirement dependencies are expressed.

As the core of the document, **Section 4: System Requirements** provides the collection of all requirements that vendor solutions will be evaluated against. It is divided into four subsections:

- Section 4.1: Procedural (Potential) Requirements
- Section 4.2: External Interface (Potential) Requirements
- Section 4.3: Functional (Potential) Requirements
- Section 4.4: Non-functional (Potential) Requirements.

Section 5: Provides a cross-reference that gives page numbers for all named requirements.

2.5 ePoll Books Working Group

The ePoll Books Working Group has held meetings from August, 2016 through February, 2017, with the next planned for March 31, 2017. Membership includes the following:

Clerks:

Kerri Parker - Meredith Lori Radke - Bedford

Denise Gonyer - Gilford

Dianne Trippett – Merrimack

Tricia Piecuch - Nashua

Sue McKinnon – Newfields

Kathy Valliere - Greenville

Betty Ramspot – Sunapee

Kathy Seaver – Farmington

Mary Reynolds - Laconia

Todd Ranier - Hooksett

Legislators:

Sen. Regina Birdsell

Sen. Donna Soucy

Sen. Betty Lasky

Sen. James Gray

Rep. Kathy Hoelzel

Rep. David Cote

Rep. Daniel Eaton

Rep. Neil Kurk

Rep. Wayne Moynihan

Rep. David Bates

Rep. Jim Belanger

Moderators:

Chris Goodnow - Salem

James Garrity - Atkinson

Peter Imse - Bow

Lynn Christenson – Merrimack

Paul Kelley – Seabrook

John Williams – Concord

Jae Whitelaw - Concord

Rodney Stark - Goffstown

Chris Messier - Manchester

State Election Officials:

William Gardner, Secretary of State

David Scanlan. Deputy Secretary of State

Anthony Stevens, Assistant Secretary of State

Dan Cloutier, Chief Information Officer

Colleen McCormick, HAVA Information Officer

3 Overall Description

3.1 Electronic Poll Books

An electronic poll book provides a means for checking and managing voter registration records at a polling place on Election Day.

The existing process for generating and printing the voter list is as follows:

- The supervisors of the checklist or town or city clerk downloads the checklist of registered voters from New Hampshire's Statewide Voter Registration System (considered a top-down system).
- The clerk receives the checklist of registered voters as a .PDF file, which is then printed, used during the election, and manually marked according to the law.
- When an election is complete, voter information is entered from the marked checklist into the New Hampshire Voter Registration System using a bar code scanner to identify the voter, with election official(s) clicking options to record hand-marked information opposite each voter name, including data from the *Voter Activity Record*, except currently a) whether a voter gave his or her name to initiate the process and b) the 2-character state abbreviation of an out-of-state driver's license, which is now tracked manually, as set forth herein.
- When an election is complete (and sometimes on election day), supervisors of the checklist enter data into ElectioNet for new registrants reflecting election day registrations. Following this step, these new registrants who voted are scanned as having voted, and an election official records hand-marked information opposite each voter name on the marked checklist.

Refer to: RSA 654:7-a; RSA 654:25; RSA 654:31-a; RSA 659:13; and RSA 659:14

 $Ballot\ Clerk\ Procedure\ -\ Primary\ \underline{http://sos.nh.gov/ElecOff.aspx}$

Ballot Clerk Procedure - General http://sos.nh.gov/ElecOff.aspx

Upon implementation of an EPBS, the download and upload process will involve the following: the clerk or *supervisor of the checklist* for a town or city requests the registered voter list from the New Hampshire Voter Registration System (Electio*Net*).. The clerk or *supervisors of the checklist* receive the voter list in electronic form and store it in a USB drive. The *voter list* is then loaded into the electronic poll book system through its USB drive. When the election is complete, the updated *voter list* is stored on a USB drive or the equivalent. The resulting file(s) are then uploaded into the Electio*Net*

upon the request of an election official. The electronic poll book system provides the data file on voter records for export to Electio*Net*. This EPB export to Electio*Net* includes all the information on a marked checklist that can be printed out at any time on election day, except a) whether a voter initiated the check-in process and b) the 2-character state name of an out-of-state driver's license presented by the voter as photo identification, and printed out at the end of election day, filed at the town/city clerk's office, and submitted to State Archives as needed pursuant to RSA 659:102. The *voter list* (containing the v*oter activity record*, with exceptions a and b above), describes the data that must be securely uploaded to the SVRS after an election.

3.1.1 New Hampshire Background and Process Characteristics

New Hampshire has many of the nation's largest polling places in which all voters vote the same ballot(s). New Hampshire EPBS should accommodate a substantial number of EPBs – at least one for each voter check-in location. If and when EPBs are deployed to add new voters to reflect new election day registrations, one EPB may be needed for each supervisor of the checklist (and assistant) to add new voters names to EPBS.

Large towns using the same ballot(s) reported the following voter statistics in the 2016 General Election:

Large NH Towns with a Single Polling Place					
Towns with	Registered	Election Day	General Election		
One Polling	Voters	Registrations	Turnout		
Place		Nov. 8, 2016	Nov. 8, 2016		
Bedford	16,733	821	13,657		
Durham	16,443	3,121	9.721		
Exeter	13,109	772	9,551		
Hampton	14,197	725	10,419		
Hanover	11,736	1,235	7,930		
Hudson	18,560	1,223	13,535		

Londonderry	18,632	1,158	14,416
Milford	11,329	875	8,378
Windham	10,094	596	9,024

Since some larger towns have expressed interest in being the early users of EPBs, we are proposing a system that uses at least eight EPBs for voter check-in and, if new voters are entered into EPBS reflecting election day registrations, a total of at least twelve EPBs for both purposes.

New Hampshire is an election day registration state. Supervisors of the checklist may optionally be able to add to EPB new voters who register on election day, so that they can be automatically processed in the check-in lines.

For security reasons, there must be an air gap between the EPBS and the Electio *Net*, so that EPBS will not search for voters on Electio *Net* or enter new voter registrations directly.

Even if new voters from election day registrations are added to EPB, supervisors are expected to manually enter new election day voter registrations in Electio *Net*, with the help of an EPB prompt that submits a limited number of new voter fields.

Vendors may wish to specify how they would add new voters to EPB reflecting election day registrations so that new voters can check-in using EPB to obtain a ballot. Vendors should be clear what statistics from the *voter activity record* their election night reporting would reflect, including whether EPB would track new voters who registered on election day.

Vendors should be clear whether they would automate the return-to-undeclared process in a state primary (although a manual file with voter signatures would still be required as a parallel function).

As an election day registration state, New Hampshire is exempt from the National Voter Registration Act (Motor Voter). To protect citizens' privacy, legislation has ensured that data at the Department of Motor Vehicles and Electio *Net* remain in separate information silos. There is currently no provision for State DMV information to be used by EPB on election day.

In the statewide voter registration system, voters' driver's license numbers and dates-of-birth are not public information. (RSA 654:31-a) Under the law, this information cannot be transferred to the EPBS.

3.2 Definitions

Electronic poll book system (EPBS) – A collection of hardware and software including at least one *configured electronic poll book* and aiming to implement electronic poll book functionality that satisfies the requirements stated in this document.

Electronic poll book (EPB) – A component of the *electronic poll book system* that includes a user interface device and that is to be used by an authorized EPBS user to view and update voter registration records.

Configured Electronic Poll Book System (CEPBS) – A physical instance of an electronic poll book system with all its components configured for use. A configured electronic poll book system consists of peripherals (e.g., printers, scanners, etc.) and a set of configured, networked electronic poll books. A CEPBS may also contain auxiliary servers.

Voter registration record – A record containing at minimum a registered voter's name, voter ID number, party affiliation, domicile address, mailing address, and town/city ward.

Voter activity record – An archive of a voter's activity within the current election. This archive includes updatable, time-stamped records of the following events (at a minimum):

- 1. The voter appeared at the polling place and offered his/her name to obtain a ballot
- 2. (If the voter did not present approved photo identification), whether a challenged voter affidavit was presented
- 3. If an out-of-state driver's license was presented as identification, which state mail abbreviation is applicable to the state that issued the drivers' license presented by the voter;
- 4. The voter has returned an absentee ballot that was counted;
- 5. The voter has presented a change of address within the same jurisdiction and change of address was entered in the EPB;
- 6. The voter was given a ballot
- 7. If the election was a state primary and the individual was undeclared or a member of the Democratic, Republican, or Libertarian Party, what party ballot was provided to the voter;

Voter record – The *voter registration record* and *voter activity record* of a voter.

Local voter database – A collection of all *voter records* specific to a jurisdiction (e.g., a precinct or district). The initial state of the *local voter database* is compiled and certified by the relevant authority. Authorized EPBS users make updates to the *local voter database* throughout the election by using the *electronic poll book system* to reflect ongoing voter activity within the jurisdiction. Depending on whether election day registration is integrated into EPBS, the EPBS may or may not keep up-to-date records of who is eligible to vote.

Voter list - A printable, exportable, and human-readable representation of the *local voter database*. The voter list is updated throughout election day to reflect *voter activity*. Depending on whether election day registration is integrated into the system, the voter list accurately reflects all eligible voters. The voter list must, at any time during election day, be printable in a format prescribed by the Secretary of State (RSA 654:25) and appear functionally similar to the physical checklist, with markings, that exists today.

Voter history – An archive of a voter's activity in elections and changes in the voter's voter registration record since the voter's initial registration to vote.

Audit log – An electronic record documenting the actions performed on or by the *electronic poll book system*.

Completed update – An update to a *voter registration record* is *completed* if a query for said *voter registration record* on any active *electronic poll book* within the *electronic poll book system* returns the same data.

Quiescent - The *electronic poll book system* is *quiescent* if all user-initiated updates have completed at all *electronic poll books*.

Statewide Voter Registration System (*SVRS*) – A collection of hardware and software, sometimes referred to as Electio*Net*, that is dedicated to storing and providing authorized access to the *voter registration records* and *voter history* of all registered voters in the State of New Hampshire.

Supplemental local voter database – A collection of changes to voter registration records and voter history in the SVRS that have occurred between the time the local voter database was compiled and the start of the election. It is assumed that, while a supplemental local voter database may be used in other states, it will not be used in the State of New Hampshire, except that supervisors of the checklist may, at the beginning of election day, record on the checklist, and in EPBS, that the voter is no longer eligible to vote due to death.

Set up EPBS – Bringing the *electronic poll book system* into an initial, functional state. This includes configuring all peripherals for use, setting up all communication networks, and configuring the initial set of *electronic poll books*. After an EPBS has been set up, it and all of its components are ready for use. A set up EPBS is a *configured electronic poll book system (CEPBS)*.

Reconfigure CEPBS – Configuring, adding, or removing any of the *configured* electronic poll book's peripherals, electronic poll books, or auxiliary servers.

Ballot Clerk role – A user account type with user access privileges enabling the account holder to perform ballot clerk duties (e.g., verifying voter eligibility, checking in voters, etc.) outlined in this document.

Supervisor of the Checklist role - A user account type with user access privileges enabling the account holder to perform supervisors of the checklist duties (e.g., registering voters, maintaining voter checklist, etc.) outlined in this document.

Administrator role - A user account type with user access privileges enabling the account holder to perform system and account administrator duties (e.g., managing user accounts, performing system diagnostics, etc.) outlined in this document. A town or city clerk, among other officials, might be able to fill this role.

User Interface – A graphical user interface (GUI) enabling user input to the *electronic poll book system* through keyboard, touch screen, or similar means.

Invariant data – Data that is part of the *voter record* but not related to the registration disposition of the voter (e.g. voter ID number from Statewide Voter Registration System).

3.3 User Characteristics

Voter: An individual who appears on the checklist at a particular voting polling pace (normally a precinct) in a particular election.

Ballot Clerk: An individual appointed by the relevant state authorities to operate the *electronic poll book system* for voter intake purposes during an election at a particular polling place. The individual may also perform other election duties. For each individual aiming to vote at said polling place in said election, a ballot clerk will use the *EPBS* to verify said individual's voting eligibility (establish if the individual is a voter) and update the individual's *voter registration record* in the *voter list* if the individual is issued a ballot. A *ballot clerk* may occupy a *ballot clerk role*.

Supervisors of the Checklist: As provided by law, the Supervisors of the Checklist maintain the voter registration records for a particular jurisdiction. The duties of the Supervisors of the Checklist include:

- 1. Conducting ongoing reviews of registered voters to ensure records are accurate and complete
- 2. Producing checklists for use in elections and meetings
- 3. Locating and training assistants to the supervisors of the checklist
- 4. Handling requests for voter registration
- 5. Processing voter registrations on election day and on other days of the year
- 6. Recording voter history in the Statewide Voter Registration System
- 7. Removing voters from the checklist on election day in the event of a death.

Supervisors of the checklist are elected by their constituents in the same town or city ward where they serve. EPBS may be used to add new voters to the *local voter list* reflecting election day registrations. *Ballot clerks* may check off new voters in EPB to enable such newly added voters to pick up ballots as and when they present their identification in the voter intake line. A *supervisor of the checklist* may occupy a *supervisor of the checklist role*.

PCC Technology Group (PCC): The technology vendor currently tasked with maintaining the integration layer of the SVRS.

3.4 Requirement Format Specification

This section specifies the format of all requirements in this document. An example requirement is provided in subsection 3.4.2.

The purpose of a requirement is to capture a specific property—functional or non-functional—that an *electronic poll book system* must possess.

Requirements are either stand-alone requirements, or cross-referencing requirements. A stand-alone requirement does not depend on any other requirements, and no other requirements depend on it. Cross-referencing requirements are tied together with other requirements. An example of a cross-referencing requirement is a user interface requirement that is related to a security requirement outlining access control to the interface.

3.4.1 Requirement Specification

Each requirement has a *unique identifier*, a *title*, a *description*, a *reference section*, and a *requirement type*.

The *unique identifier* is used to identify a requirement. Whenever a requirement is referenced by another requirement, its unique identifier is used.

The *title* serves as a brief summary of the requirement.

The *description* is a detailed specification of the requirement. The description text may contain references to other related requirements (referred to by their unique identifiers).

The *reference* section gives a list of unique identifiers of all requirements that the requirement is contingent upon (e.g., a user interface requirement could be related to a corresponding security requirement outlining access control to the interface). The reference section also contains all references to external documents (e.g., statutes) that are relevant to the requirement. Stand-alone requirements will have an empty reference section.

The (potential) *requirement type* states how crucial the requirement is. The requirement type has three possible values: *mandatory* (*M*), *preferred* (*P*), and *advisable* (*A*). Since this constitutes an early-stage Request For Information (RFI), vendors and members of the Working Group are encouraged to make recommendations in the space allocated to "Comments on Potential Requirement" in the Cross Reference Table as to whether the future requirement should be *mandatory* (*M*), *preferred* (*P*), and *advisable* (*A*).

(Potential) Requirement Type	Explanation
Mandatory	<i>Mandatory</i> requirements define properties necessary to any <i>electronic</i> poll book system. If a vendor solution does not fulfill a mandatory requirement, the entire solution would receive a failing score and be rejected. In other words, mandatory requirements describe the baseline for a passing electronic poll book solution. Solutions that only fulfill

	mandatory (potential) requirements may require substantial technical oversight if used in actual elections.
Preferred	Preferred requirements define a satisfactory electronic poll book system. If a vendor solution does not fulfill a preferred requirement, the solution can be expected to have deficiencies. Solutions that fulfill all mandatory, and preferred requirements meet the functional baseline and provide a satisfactory level of security, reliability, performance, availability, and usability.
Advisable	Advisable requirements define a strong electronic poll book system. A solution fulfilling all mandatory, preferred, and advisable requirements can be recommended without reservation.

3.4.2 Indicative Requirement Example

The below requirement specifies the structure of all requirements by example.

ER-1: An example requirement. {Requirement Type: mandatory}

Description: This is an example requirement. It is subject to example requirement **ER-2**.

Ref: ER-2.

For the example requirement above, **ER-1** is its unique identifier, and "An example requirement" is the title. **ER-1** is *mandatory* (*M*) and has a dependency on requirement **ER-2**.

4 System Requirements

4.1 Procedural indicative requirements

PROCR-1: Vendor to provide two *electronic poll book systems*. {(potential) requirement Type: mandatory}

Description: As of the date of the vendor's application for approval of the *electronic poll book system* by the secretary of the state, the vendor must provide at least two complete working *electronic poll book systems* to the State of New Hampshire for evaluation against the (potential) requirements of the New Hampshire Secretary of State.

Ref: None

PROCR-2: Vendor to provide list of customers.

{(potential) requirement Type: mandatory}

Description: The vendor must provide a list of customers who are using, or have previously used, the vendor's *electronic poll book system*. This list must be current as of the date of the vendor's application for approval of the *electronic poll book system* by the Secretary of the State.

Ref: REF-2

PROCR-3: Vendor to provide list of known anomalies.

{(potential) requirement Type: mandatory}

Description: The vendor must provide a description of any known anomalies in the function of the *electronic poll book system* as well as a description of the method for resolving those anomalies. This list should be current as of the date of the vendor's appearance at the March 31, 2017 Vendor Fair and Interview. It must be compliant with RSA 659:13, RSA 659:14 and the Ballot Clerk Procedures for the State Primary and the General Election.

Ref: REF-2

PROCR-4: Compiling, importing, and exporting *local voter database*.

{(potential) requirement Type: mandatory}

Description: Compiling the *local voter database*, importing it into the *electronic poll book system* from the SVRS, and exporting it from the *electronic poll book system* must not require vendor involvement.

Ref: None

PROCR-5: Vendor to provide a pre-use fitness test for the *electronic poll book system*. {(potential) requirement Type: mandatory}

Description: The vendor shall provide instructions and materials sufficient to carry out a fitness test of the *electronic poll book system* and *electronic poll books* before their use in an election. The test should be thorough enough to demonstrate that the subject is in basic working order.

Ref: None

PROCR – **6:** Vendor to suggest trial format that enables check of EPB accuracy against paper checklist.

potential) requirement Type: mandatory}

Description: The vendor shall provide instructions and materials sufficient to carry out an accuracy test of the *electronic poll book system* and *electronic poll books* before their use in an election. The test should be thorough enough to demonstrate that the subject operates when tested against a marked paper checklist.

PROCR – **7:** Vendor to provide pre-use fitness test that demonstrates what happens if and when Wi-Fi or other electronic capability become inoperative during election day. {(potential) requirement Type: mandatory}

Description: The vendor shall provide instructions and materials sufficient to carry out a test of the *electronic poll book system* and *electronic poll books* in which various electronic components fail to function as expected. The test should be thorough enough to demonstrate that the subject EPBS recovers after electronic components fail.

4.2 External Interface indicative requirements

4.2.1 User Interface indicative requirements

UIR-1: Ballot clerk and Supervisor of the checklist interface. *[(potential) requirement Type: mandatory)*

Description: An *electronic poll book* must provide a *user interface* through which authorized users can verify an individual's voting eligibility and document the voter's election related activity. This interface must enable authorized users to perform updates to, and lookups of, *voter registration records* and *voter activity records* included in the *local voter database*. Specifically, the interface must allow a *ballot clerk* to access all functionality outlined in the following (potential) requirements: **FR-7**, **FR-8**, **FR-9**, **FR-11**, and **FR-14**. This interface is subject to the following security access management (potential) requirements: **SR-14**.

Ref: FR-7, FR-8, FR-9, FR-11, FR-14, SR-14

UIR-2: Configuration interface.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* must provide a *user interface* through which authorized users can configure the system. This includes the initial setup of the system, reconfiguration, viewing the current configuration, as well as adding or removing *electronic poll books*. Specifically, the interface must allow authorized users to access all functionality outlined in the following (potential) requirements: **FR-1**, and **FR-2**. This

interface is subject to the following security access management (potential) requirements: **SR-15.**

Ref: FR-1, FR-2, SR-15

UIR-3: Diagnostic interface.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* must provide a *user interface* through which authorized users can perform system diagnostics and validation by viewing, printing, and exporting the *audit log* of the system. Specifically, the interface must allow authorized users to access all functionality outlined in the following (potential) requirements: **FR-15.** This interface is subject to the following security access management (potential) requirements: **SR-16.**

Ref: FR-15, SR-16

UIR-4: Administrative interface.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* must provide a *user interface* through which authorized users can manage user accounts within an *electronic poll book system*. This includes adding and removing users and managing their access privileges. This interface is subject to the following security access management (potential) requirements: **SR-17.**

Ref: SR-17

UIR-5: Local voter database interface.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* must provide a *user interface* through which authorized users can import and export the *local voter database*, view and print the *voter list*, and update *local voter databases*. Specifically, the interface must allow authorized users to access all functionality outlined in the following (potential) requirements: **FR-17**, and **FR-19**. This interface is subject to the following security access management (potential) requirements: **SR-18**.

Ref: SR-18, FR-17, FR-19

4.2.2 Hardware Interfaces

HIR-1: USB port.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* must have a USB port through which the *local voter database* can be imported into the system. This interface is the only system end point through which data can be imported into the *electronic poll book system*, as specified in **SR-7**. Data imported through this interface must fulfill security (potential) requirements specified in **SR-8**.

Ref: SR-7, SR-8

HIR-2: Card reader.

{(potential) requirement Type: advisable}

Description: The *electronic poll book system* may include one bar code reader per active *electronic poll book*. Each bar code reader must:

- 1. Permit a voter who presents a New Hampshire driver's or non-driver's license scan the license or card through the bar code reader
- 2. Display the voter's *voter record* (*without non-public data*) upon processing the information contained within the bar code on the license or identification.

Ref: RSA 654:45; RSA 654:31-a

4.3 Functional indicative requirements

FR-1: Adding a new *EPB* to the *EPBS*.

{(potential) requirement Type: **preferred**}

Description: The *electronic poll book system* must provide means for the integration of an additional *electronic poll book* into its configuration at any point throughout the election without requiring a shutdown or a restart of the *electronic poll book system*. The coordinated action of at least two authorized EPBS users is required to perform this action. This system event must be documented in the *audit log*.

Ref: UIR-2

FR-2: Removing an *EPB* from the *EPBS*.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* must provide means for the exclusion of an existing *electronic poll book* from its configuration at any point throughout the election without requiring a shutdown, or restart of the *electronic poll book system*. The coordinated action of two authorized EBPS users is required to perform this action. This action does not require physical access to the *electronic poll book* that is to be excluded. This system event must be documented in the *audit log*.

Ref: UIR-2

FR-3: Identifying an *EPB*.

{(potential) requirement Type: mandatory}

Description: Each *electronic poll book* within a *configured electronic poll book system* must have a unique identifier. Any component within a *configured electronic poll book system* must be able to uniquely identify said *electronic poll book* by its identifier.

Ref: None

FR-4: Restricted access to voter information.

{(potential) requirement Type: mandatory}

Description: An *electronic poll book system* must not permit access to voter information other than information included in the *local voter database*.

Ref: RSA 654:45; RSA 654:31-a

FR-5: Constrained data storage.

{(potential) requirement Type: advisable}

Description: The *electronic poll book system* may not permit the storage of data other than that outlined in **DOCR-15** (voter information), **DOCR-11** (programs), and **DOCR-12** (system configuration data).

Ref: FR-4, DOCR-11, DOCR-12

FR-6: *Voter list* storage.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* must have the capability of storing (in external or internal memory) a copy of the *voter list (voter registration records and voter activity records)* in at least two separate locations.

Ref: None

FR-7: Voter information lookup.

{(potential) requirement Type: **mandatory**}

Description: The *electronic poll book system* must permit a *ballot clerk* or *supervisor of the checklist* to verify whether an individual is eligible to vote and look up the voter's activity within the election. Specifically, the *electronic poll book system* must permit an authorized EPBS user to look up the voter's *voter record* as it appears in the *local voter database* on election day.

Ref: REF-2 Sec. 23-c

FR-8: Voter information updates.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* must permit a *ballot clerk* to update a voter's *voter record* in the *local voter database*. These updates must include, but are not limited to, the recording of:

- a. Whether a voter gave his or her name to initiate the voter check-in process
- b. The casting of an absentee ballot from the voter.
- c. Address change information provided by the voter when submitted to the ballot clerks.
- d. The receipt of a challenged voter affidavit (CVA) from the voter.
- e. The 2-character state abbreviation of an out-of-state driver's license when used as a photo ID by a voter.
- f. Whether a voter was given a ballot at the end of the check-in process.

The *electronic poll book system* must permit a *supervisor of the checklist* to update a voter's *voter record* in the *local voter database* on election day by noting that the person has been removed due to death.

If adding new voters from election day registration is integrated into the EPBS, the EPBS must permit the recording of new voter information to permit recordation of election day registration and tracking of such voters in the EPBS.

Ref: REF-2 Sec. 24

FR-9: Generating and printing reports.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* must provide the means for an authorized EPBS user to generate and print reports at any time during the election. The list of supported reports must include but not be limited to: the *voter list* in a format substantially identical in appearance to the existing paper checklist printed from SVRS, including marks and data that reflects *voter activity records* current as of that moment in time on election day, the *audit log*, and voter turnout reports. This up-to-date marked checklist must be functional in the event that electronic poll books become unavailable. The underlying assumption is that elections can continue without double voting whether or not electronic poll books are operational.

Ref: RSA 654:25; RSA 654:31; RSA 654:45; RSA 659:13; RSA 659:14; RSA 659:102

FR-10: The *electronic poll book* must maintain a printable format of the *voter list* (voter *registration record and plus voter activity record*) {(potential) requirement Type: mandatory}

Description: It must be possible to continue with an election should the *electronic poll book system* become inoperable. To that end, the *electronic poll book* must maintain a printable checklist format of the *voter list* on removable storage, reflecting *voter activity record* to that moment.

Ref: New Hampshire RSA 654:25, RSA 659:13, RSA 659:14, RSA 659:102.

FR-11: Deliberately Left Blank.

Ref: None

FR-12: User accounts.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* must permit an *administrator* to manage user accounts within its *configuration*. This includes adding and disabling user accounts, and setting user roles for existing accounts.

Ref: None

FR-13: RSA Chapter 654 and 659 requirements.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* must have the ability to be used in conformity with election laws in the Revised Statutes Annotated (RSAs) of the State of New Hampshire, which includes at least:

- 1. The support of any type of election conducted in New Hampshire;
- 2. The proper treatment of unaffiliated voters allowed to vote in a party primary;
- 3. The ability to accommodate additional lines of voters after the polls have opened;
- 4. The ability to produce a hard copy of the *voter list* complete with all (heretofore manual) checklist marks during election day or after the election that will allow election officials transition to the use of a manual checklist on election day, to check the accuracy of the *voter list* as needed, and to maintain required records.

Ref: RSA Chapters 654 and 659, at a minimum.

FR-14: System event confirmation.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* must indicate that

- 1. The *electronic poll book system* has been set up for use in the election;
- 2. An *electronic poll book* has been set up for use in the election;
- 3. A voter registration record has changed;
- 4. A voter activity record has changed;
- 5. The *local voter database* has been imported into the *electronic poll book system*;
- 6. A system error or deviation has been detected, along with a description of the system error or deviation;
- 7. An *electronic poll book* is shutting down;
- 8. More to come...

Ref: RSA 654:45

FR-15: Diagnostics mode.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* must provide a diagnostics mode that

- 1. Allows the administrator to view and print the audit log;
- 2. Allows the *administrator* to verify that all events required to set up the system have been recorded in the audit log;
- 3. Allows the *administrator* to check any *voter registration record* and *voter activity record* at any time during the election;
- 4. Allows the *administrator* to view all system errors and deviations that have been recorded in the audit log;
- 5. Allows the *administrator* to verify the time stamp and polling place of the imported *local voter database*;
- 6. More to come...

Ref: UIR-3; RSA 654:45

FR-16: Program execution.

{(potential) requirement Type: advisable}

Description: The *electronic poll book system* must prevent any program that is not listed in **DOCR-11** from being executed within the *EPBS*.

Ref: DOCR-11; RSA 654:25; RSA 654:31-a; RSA 654:45; RSA 659:13; RSA 659:14; RSA 659:102

FR-17: Printing *voter list*.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* must allow *supervisors of the checklist or clerks* to print the *voter list* used in the system in paper format. The format of the printed-paper record is to be specified and approved by the New Hampshire Secretary of State.

Ref: RSA 654: 25; RSA 654:31.

FR-18: Retaining voter information.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* must permit authorized EPBS users to extract all voter information as it appears in the *electronic poll book system*, for retention on the distinct storage components maintained for the period required by New Hampshire and federal laws.

Ref: RSA 659:13; RSA 659:14; RSA 659:102

FR-19: Compatibility with SVRS.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* must be compatible with New Hampshire's *Statewide Voter Registration System* (Electio*Net*) and compliant with the security requirements thereof.

Ref: FR-22, FR-23; RSA 654:45

FR-20: As a part of the *local voter database* import, the *electronic poll book system* must require the user to confirm that they are importing the intended *local voter database*.

Description: When the user imports the *local voter database*, they must take some action to verify that they are importing the *local voter database* for the correct election and for the correct polling place.

Ref: None

FR-21: One voter/ one vote within *EPBS*.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* must guarantee that within a *configured electronic poll book system* a voter can be checked in at most once during normal connectivity.

Ref: None

FR-22: Local voter database import.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* must enable an *administrator*, *ballot clerk*, or *supervisor of the checklist* to import the *local voter database* through hardware interface **HIR-1**.

Ref: HIR-1, UIR-5,

FR-23: *Local voter database* export.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* must enable an *administrator*, *ballot clerk*, or *supervisor of the checklist* to export the *local voter database* through hardware interface **HIR-1**.

Ref: HIR-1, UIR-5

FR-24: Supplemental local voter database. {(potential) requirement Type: **mandatory**}

Description: The *electronic poll book system* must <u>not</u> enable an *administrator*, *ballot clerk*, or *supervisor of the checklist* to import a *supplemental local voter database* through hardware interface **HIR-1**. Importing a complete and comprehensive *local voter database* must be the only option.

Ref: None

FR-25: Deliberately left blank

Ref: None

FR-26: The *electronic poll book* must not change *invariant data*. *{(potential) requirement Type: mandatory*}

Description: The *electronic poll book* must not modify *invariant data* in the voter record during normal operation, *local voter database* import, or *local voter database* export. The New Hampshire Secretary of State will, consistent with New Hampshire laws, specify what *invariant data*, if any, may be used in EPBS.

Ref: RSA 654:45

FR-27: As a part of the *local voter database* export, the *electronic poll book system* must require the user to confirm that they are exporting the intended *voter list* after the election.

{(potential) requirement Type: mandatory}

Description: When the authorized EPBS user exports the *voter records* (*except voter activity records* #1 and #3) after the election, they must take some action to verify that they are exporting the *voter list* for the correct election and for the correct polling place.

Ref: RSA 654:45; RSA 659:13; RSA 659:14

4.4 Non-Functional indicative requirements

4.4.1 Performance

PR-1: *Electronic poll book* capacity during peak usage.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* must accommodate at least (8) eight *electronic poll books* operating together within a single *configured electronic poll books* implementation during peak usage. More poll books may be required in larger towns and if EPB is modified to allow entry of new voters reflecting election day registrations.

Ref: None

PR-2: Voter throughput per *EPB*.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system should* allow for voter throughput of *thirty* (30) voters per hour within a *configured electronic poll book system*.

Ref: None

PR-3: *Voter list* export.

{(potential) requirement Type: mandatory}

Description: Exporting the *voter list* using **UI-5** (voter list import and export) may take no longer than eight (8) minutes. It is understood that, in the case of larger towns, printing the voter list may occupy longer time frames. Vendors shall specify anticipated printing time frames with various types of printers and various town sizes, recognizing that some larger towns in New Hampshire may want to use EPBs.

Ref: None

PR-4: *Voter list* import.

{(potential) requirement Type: mandatory}

Description: Importing the *voter list* using **UI-5** (voter list import and export) may take no longer than eight (8) minutes.

Ref: None

PR-5: *Electronic poll book system* setup. {(potential) requirement Type: mandatory}

Description: Setting up an *electronic poll book system* with eight (8) active *electronic poll books should* not take longer than 80 minutes.

Ref: None

PR-6: *Electronic poll book* boot up and configuration.

{(potential) requirement Type: mandatory}

Description: Booting up an *electronic poll book* and adding it to a *configured electronic poll book system* should not take longer than three (3) minutes.

Ref: None

4.4.2 Reliability

RR-1.1: Voter check-in during interruption of connectivity.

{(potential) requirement Type: mandatory}

Description: In the event of a temporary interruption of connectivity within an *electronic poll book system*, the *electronic poll book system* must permit a voter to check-in.

Ref: None

RR-1.2: Upon restoration of connectivity.

{(potential) requirement Type: mandatory}

Description: In the event of a temporary interruption of connectivity within an *electronic poll book system*, the *electronic poll book system* must automatically restore *voter list* consistency across the *electronic poll books* after connectivity is restored.

Ref: None

RR-1.3: Identify double voting.

{(potential) requirement Type: advisable}

Description: In the event of a temporary interruption of connectivity within an *electronic poll book system*, the *electronic poll book system* must identify voters that have been checked in at two or more different *electronic poll books* during the interruption of connectivity.

Ref: None

RR-1.4: Indicate interruption of connectivity.

{(potential) requirement Type: mandatory}

Description: In the event of a temporary interruption of connectivity within an *electronic poll book system*, the *electronic poll book system* must indicate that there has been an interruption of connectivity by signaling and entering relevant event information into the *audit log*.

Ref: None

RR-2: Loss of power.

{(potential) requirement Type: mandatory}

Description: In the event of a temporary loss of power, the *electronic poll book system* must permit a voter to check-in. The *electronic poll book system*'s battery supply must allow for at least four (4) hours of operation without external power supply.

Ref: None

RR-3: Data recovery.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* must provide means for *local voter database* data recovery, should one of the physical memory storage components fail.

Ref: None

RR-4: Simultaneous data storage.

{(potential) requirement Type: mandatory}

Description: Each *electronic poll book* must provide at least two methods for simultaneous data storage in distinct physical storage components to prevent the loss of data.

Ref: None

RR-5: *Local voter database* replicas.

{(potential) requirement Type: mandatory}

Description: Within the *electronic poll book system* there must exist at least two replicas (logical or physical) of the *local voter database*. These replicas must be stored in distinct physical storage components.

Ref: None

RR-6: Local voter database replica consistency.

{(potential) requirement Type: mandatory}

Description: If the *electronic poll book system* is in a *quiescent* state all replicas of the *local voter database* must be logically consistent.

Ref: None

RR-7: Operational consistency.

{(potential) requirement Type: mandatory}

Description: Any update to a *voter record* or to any other data pertaining to the election completed on one *electronic poll book* must be seen as *complete* on all other *electronic poll books*.

Ref: None

RR-8: Environmental robustness.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* must be usable within a standard office environment and with temperature ranging at from 50°F (or higher) to 90°F (or lower).

Ref: None

4.4.3 Availability

AR-1: At least (8) eight *EPBs* in an *EPBS*; (12) if adding new voters. {(potential) requirement Type: mandatory}

Description: An *electronic poll book system* must support at least eight (8) *electronic poll books* in a single polling location. Each of the *electronic poll books* must be usable concurrently. Should one of the *electronic poll books* become inoperable, the operation of the remaining *electronic poll books* or *electronic poll books* must not be affected. Should the system be modified to add new voters reflecting election day registrations, the EPBS must support a minimum of twelve (12) *electronic poll books*.

Ref: None

AR-2: No single point of failure.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* must be designed to tolerate any single point of failure scenarios.

Ref: None

4.4.4 Safety and Security

SR-1: *EPBS* must prevent injury or damage. *{(potential) requirement Type: mandatory}*

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Description: The *electronic poll book system* must be designed to prevent injury or damage to any individual or the hardware, including fire and electrical hazards.

Ref: None

SR-2: Isolation from other electronic election systems.

{(potential) requirement Type: mandatory}

Description: An *electronic poll book system* may not be connected to any other electronic election system.

Ref: None

SR-3: Restricted access and communications.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book* must prevent access to the system and its components by Internet or wireless method. The only exception is secure, reliable, dedicated, local-area communication limited to the system's components that is designed and required for correct system operation.

Ref: None

SR-4: Eavesdropping attack prevention.

{(potential) requirement Type: **preferred**}

Description: The *electronic poll book system* must be protected against eavesdropping attacks.

Ref: None

SR-5: Man-in-the-middle attack prevention.

{(potential) requirement Type: preferred}

Description: The *electronic poll book system* must be protected against man-in-the-middle attacks.

Ref: None

SR-6: Replay attack prevention.

{(potential) requirement Type: **preferred**}

Description: The *electronic poll book system* must be protected against replay attacks. A replay attack is carried out either by the originator or by an attacker who intercepts the data and retransmits it, possibly as part of a masquerade attack by IP packet substitution.

Ref: None

SR-7: Imports restricted to **HIR-1** (USB port).

{(potential) requirement Type: mandatory}

Description: A file can only be imported into the *electronic poll book system* through **HIR-1**. No other interfaces may be used to import files into the *electronic poll book system*.

Ref: HIR-1

SR-8: HIR-1 (USB port) restrictions.

{(potential) requirement Type: **preferred**}

Description: The *electronic poll book system* must preclude all files--other than those specified in **DOCR-15** (voter information), **DOCR-11** (programs), and **DOCR-12** (system configuration data)--from being imported into the system through **HIR-1** (USB port).

Ref: HIR-1, DOCR-11, DOCR-12, DOCR-15

SR-9: File format verification.

{(potential) requirement Type: mandatory}

Description: A file can only be imported into the *electronic poll book system* if it complies with its file format specification provided in **DOCR-16**.

Ref: DOCR-16

SR-10: File authenticity verification.

{(potential) requirement Type: preferred}

Description: A file can only be imported into the *electronic poll book system* if it passes file authenticity verification. This verification must prove that the file originates from a trusted source, by validating the digital signature of the file.

Ref: None

SR-11: Signed exports.

{(potential) requirement Type: preferred}

Description: Any file to be used in the electoral process, e.g., for information exchange with other election systems, audit purposes, etc., must be cryptographically signed before it is exported from the *electronic poll book system*. Digital signatures must be compliant with a standard, such as the Digital Signature Standard (DSS) specified in external document **REF-1**.

Ref: REF-1

SR-12: Use by account holders only.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* must restrict its use to individuals holding an official role/account created.

Ref: FR-20

SR-13: User roles.

{(potential) requirement Type: preferred}

Description: Within the *electronic poll book system* there must only be three authorized EPBS user roles: *ballot clerk, supervisor of the checklist,* and *administrator*. Any account created as part must be assigned one of these three roles.

Ref: FR-20

SR-14: Access to UI-1 (authorized EPBS user interface).

{(potential) requirement Type: mandatory}

Description: Access to **UI-1** and all underlying functionality is restricted to account holders of authorized EPBS user role accounts. Password authentication is required to validate the account holder's access privileges.

Ref: UI-1

SR-15: Access to **UI-2** (configuration interface).

{(potential) requirement Type: mandatory}

Description: Access to **UI-2** and all underlying functionality is restricted to account holders of authorized EPBS accounts. The coordinated actions of two (2) authorized EPBS users are required to validate the account holder's access privileges.

Ref: UI-2

SR-16: Access to **UI-3** (diagnostic interface).

{(potential) requirement Type: mandatory}

Description: Access to **UI-3** and all underlying functionality is restricted to account holders of *administrator role* accounts. Password authentication is required to validate the account holder's access privileges.

Ref: UI-3

SR-17: Access to **UI-4** (administrative interface).

{(potential) requirement Type: mandatory}

Description: Access to **UI-4** and all underlying functionality is restricted to account holders of *administrator role* accounts. Password authentication is required to validate the account holder's access privileges.

Ref: UI-4

SR-18: Access to **UI-5** (*local voter database*).

{(potential) requirement Type: mandatory}

Description: Access to **UI-5** and all underlying functionality is restricted to account holders of authorized EPBS user role accounts. Password authentication is required to validate the account holder's access privileges.

Ref: UI-5

SR-19: File integrity verification.

{(potential) requirement Type: preferred}

Description: A file can only be imported into the *electronic poll book system* if it passes file integrity verification. This verification must prove that the file has not been tampered with between the time that it was signed and the time of the import.

Ref: None

SR-20: Tamper evident cases.

{(potential) requirement Type: mandatory}

Description: All *electronic poll book* hardware interfaces must be sealable with tamper-evident seals. This includes HIR-1 (USB port).

Ref: HIR-1

4.4.5 Auditability

AUR-1: Audit log.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* must be auditable. To that end, the system must maintain an *audit log*.

Ref: None

AUR-2: Log voter registration record queries and updates.

{(potential) requirement Type: mandatory}

Description: The *audit log* must retain time-stamped records of any query of, or update to, a *voter record* by any user of the *electronic poll book system*.

Ref: None

AUR-3: Log user actions.

{(potential) requirement Type: **preferred**}

Description: The *audit log* must retain time-stamped records of any actions performed by any user on the *electronic poll book system*, including but not limited to:

1. Starting up the system.

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- 2. Shutting down the system.
- 3. Switching user accounts.
- 4. Creating/ modifying user accounts.
- 5. Switching to diagnostic/administrative mode.
- 6. Printing.
- 7. Exporting.
- 8. Importing.
- 9. Adding/removing an electronic poll book.
- 10. More to come...

Ref: RSA 654:45; RSA 659:1`3; RSA 659:14; RSA 659:102

AUR-4: Log system deviations.

{(potential) requirement Type: mandatory}

Description: The *audit log* must retain time-stamped records of:

- 1. Any interruption in connectivity (between the components of *electronic poll book system*) or loss of power;
- 2. Any detected system error or deviation from expected system behavior;

Ref: None

AUR-5: Printable audit log.

{(potential) requirement Type: mandatory}

Description: The *audit log* must be printable.

Ref: None

AUR-6: Exportable audit log.

{(potential) requirement Type: mandatory}

Description: The *audit log* must be exportable to an external, removable storage device.

Ref: None

AUR-7: No audit log encryption.

{(potential) requirement Type: mandatory}

Description: The audit log must **not** be encrypted.

Ref: None

AUR-8: Audit log format compliance.

{(potential) requirement Type: mandatory}

Description: The *audit log* must be compliant with the format specified in **DOCR-9**.

Ref: DOCR-9

4.4.6 Usability

UR-1: Ease of use.

{(potential) requirement Type: mandatory}

Description: The vendor of an *electronic poll book system* must provide procedures for setting up, using, and shutting down an *electronic poll book system* that are reasonably easy for *a ballot clerk, supervisor of the checklist* or town or city clerk to learn, understand, and perform. The procedures for setting up, using, and shutting down an *electronic poll book system* must not require a significant amount of training in addition to the initial training required when a purchase of the equipment is made. The vendor must also make available additional training in the setup, use, and shutdown of the system.

Ref: None

4.4.7 **Documentation**

DOCR-1: Set up, use, and shutdown instructions.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* documentation must include well-written, complete instructions sufficient for a *ballot clerk, supervisor of the checklist*, or town or city clerk to set up, use, configure, reconfigure, and shut down the *electronic poll book system*.

Ref: None

DOCR-2: Functionality specification.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* documentation must include detailed specification of all implemented functionality of the system.

Ref: None

DOCR-3: Training materials.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* documentation must include training materials that:

- 1. May be in written or video form;
- 2. Must be in a format suitable for use at a polling place, such as simple "how to" guides;

Ref: None

DOCR-4: Data recovery procedures.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* documentation must include data recovery procedures for information included in the *electronic poll book system*.

Ref: RSA 659:13; RSA 659:14, RSA 659:102

DOCR-5.1: System architecture.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* documentation must include an architecture model of the *electronic poll book system*.

Ref: None

DOCR-5.2: End user documentation.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* documentation must include end-user documentation.

Ref: None

DOCR-5.3: System level documentation.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* documentation must include system level documentation.

Ref: None

DOCR-5.4: Developer documentation.

{(potential) requirement Type: preferred}

Description: The *electronic poll book system* documentation must include developer documentation.

Ref: None

DOCR-6: Consumables documentation.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* documentation must include detailed information concerning:

- 1. Electronic poll book system consumables; and
- 2. The vendor's supply chain for those consumables.

Ref: None

DOCR-7: Quality assurance procedures, test data, and reports.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* documentation must include vendor internal quality assurance procedures and any internal or external test data and reports available to the vendor concerning the electronic poll book system.

Ref: None

DOCR-8: Repair and maintenance policies.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* documentation must include repair and maintenance policies for the electronic poll book system.

Ref: None

DOCR-9: Audit log specification.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* documentation must include detailed specification of the system's *audit log*, including but not limited to:

- 1. A complete definition of the audit log format; and
- 2. For each audit log entry, a precise statement regarding the system event that causes said entry to be generated.

Ref: None

DOCR-10: Usability tests.

{(potential) requirement Type: **preferred**}

Description: The *electronic poll book system* documentation must include usability tests that address all user-facing features of the system, including but not limited to: the setting up, configuring, reconfiguring, using, and shutting down of the *electronic poll book system*. These are to be conducted by the manufacturer of the *electronic poll book system* using individuals who are representative of the general public.

Ref: None

DOCR-11: List of all *EPBS* programs.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* documentation must include a list of all programs that will be executed during the use of the system, as well as a list of all files storing program

data. For each program in the list, the intended function of the program must be identified. For each file storing program data the associated program must be identified.

Ref: None

DOCR-12: List of system configuration data.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* documentation must include a list of all system configuration data required for proper system function. For each configuration data file in the list, the intended function of the configuration data must be identified. For each configuration data file in the list, the hardware and/ or software component to which the configuration data is applied must be identified.

Ref: None

DOCR-13: User interfaces.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* documentation must include a list of all user interfaces, including but not limited to the interfaces outlined in **UI-1**, **UI-2**, **UI-3**, **UI-4**, and **UI-5**. For each user interface in the list a description must be provided, as well as information on what user roles are authorized to access said interface.

Ref: UI-1, UI-2, UI-3, UI-4, UI-5.

DOCR-14: Non-functional (potential) requirements documentation.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* documentation must include documentation on the system's non-functional qualities, including but not limited to Performance, Availability, Reliability, Safety, Security, and Auditability.

Ref: None

DOCR-15: List of files containing voter information.

{(potential) requirement Type: mandatory}

Description: The *electronic poll book system* documentation must include a list of all files containing information that is part of the *local voter database*.

Ref: None

DOCR-16: File format specification.

{(potential) requirement Type: preferred}

Description: The *electronic poll book system* documentation must include a file format specification for each file or program listed in **DOCR-11**, **DOCR-12**, and **DOCR-15**.

Ref: DOCR-11, DOCR-12, DOCR-15

5 Cross-Reference Table

This section gives a table of all indicative requirements in this document along with their page numbers. Vendors are encouraged to state whether they can comply or suggest alternate means of accomplishing the implied goal. To enable comments in the fields below, this RFI has been provided in both MS word and PDF format.

Title and Identifier	Page Number	Compliance: Yes/No	Comments on Potential Requirement
AR-1: At least (8) eight EPBs in an EPBS; (12) if adding new voters.	31	Yes	
AR-2: No single point of failure.	31	Yes	
AUR-1: Audit log.	35	Yes	
AUR-2: Log voter registration record queries and updates.	35	Yes	
AUR-3: Log user actions.	35	Yes	
AUR-4: Log system deviations.	36	Yes	
AUR-5: Printable audit log.	36	Yes	
AUR-6: Exportable audit log.	36	Yes	
AUR-7: No audit log encryption.	36	Yes	

Title and Identifier	Page Number	Compliance: Yes/No	Comments on Potential Requirement
AUR-8: Audit log format compliance.	36	Yes	
DOCR-1: Set up, use, and shutdown instructions.	37	Yes	
DOCR-2: Functionality specification.	37	Yes	
DOCR-3: Training materials.	37	Yes	
DOCR-4: Data recovery procedures.	38	Yes	
DOCR-5.1: System architecture.	38	Yes	
DOCR-5.2: End user documentation.	38	Yes	
DOCR-5.3: System level documentation.	38	Yes	
DOCR-5.4: Developer documentation.	38	Yes	
DOCR-6: Consumables documentation.	38	Yes	
DOCR-7: Quality assurance procedures, test data, and reports.	39	Yes	
DOCR-8: Repair and maintenance policies.	39	Yes	
DOCR-9: Audit log specification.	39	Yes	

Title and Identifier	Page Number	Compliance: Yes/No	Comments on Potential Requirement
DOCR-10: Usability tests.	39	Yes	
DOCR-11: List of all <i>EPBS</i> programs.	39	Yes	
DOCR-12: List of system configuration data.	40	Yes	
DOCR-13: User interfaces.	40	Yes	
DOCR-14: Non-functional (potential) requirements documentation.	40	Yes	
DOCR-15: List of files containing voter information.	40	Yes	
DOCR-16: File format specification.	40	Yes	
FR-1: Adding a new <i>EPB</i> to the <i>EPBS</i> .	21	Yes	
FR-2: Removing an <i>EPB</i> from the <i>EPBS</i> .	21	Yes	
FR-3: Identifying an <i>EPB</i> .	22	Yes	
FR-4: Restricted access to voter information.	22	Yes	
FR-5: Constrained data storage.	22	Yes	
FR-6: Voter list storage.	22	Yes	

Title and Identifier	Page Number	Compliance: Yes/No	Comments on Potential Requirement
FR-7: Voter information lookup.	22	Yes	
FR-8: Voter information updates.	23	Yes	
FR-9: Generating and printing reports.	23	Yes	
FR-10: The electronic poll book must maintain a printable format of the voter list	24	Yes	

Title and Identifier	Page Number	Compliance: Yes/No	Comments on Potential Requirement
FR-10: The electronic poll book must maintain a printable format of the voter list (voter registration record and plus voter activity record) {(potential) requirement Type: mandatory} Description: It must be possible to continue with an election should the electronic poll book system become inoperable. To that end, the electronic poll book must maintain a printable checklist format of the voter list on removable storage, reflecting voter activity record to that moment. Ref: New Hampshire RSA 654:25, RSA 659:13, RSA 659:14, RSA 659:102. FR-11: Deliberately Left Blank.	24	Yes	
FR-12: User accounts	24	Yes	

Title and Identifier	Page Number	Compliance: Yes/No	Comments on Potential Requirement
FR-12: User accounts. {(potential) requirement Type: mandatory}	24	Yes	
Description: The electronic poll book system must permit an administrator to manage user accounts within its configuration. This includes adding and disabling user accounts, and setting user roles for existing accounts.			
Ref: None			
FR-13: RSA Chapter 654 and 659 requirements. {(potential) requirement Type: mandatory} See Ballot Clerk Procedures for State Primary and General Election			
FR-14: System event confirmation.	24	Yes	
FR-15: Diagnostics mode.	25	Yes	
FR-16: Program execution.	25	Yes	
FR-17: Printing voter list.	25	Yes	
FR-18: Retaining voter information.	26	Yes	

Title and Identifier	Page Number	Compliance: Yes/No	Comments on Potential Requirement
FR-19: Compatibility with SVRS.	26	Yes	
FR-20: As a part of the local voter database import, the electronic poll book system must require the user to confirm that they are importing the intended local voter database	26	Yes	
FR-21: One voter/ one vote within EPBS. {(potential) requirement Type: mandatory}	26	Yes	
FR-22: Local voter database import.	27	No	USB ports have the possibility of introducing malware. Precinct Central has a well thought out networking scheme that allows it to connect to a secure Cloud repository through a secure WiFi network. Each Touchpad is capable of connecting to a local WiFi and can download a database from a local FTP.
FR-23: Local voter database export.	27	No	USB ports have the possibility of introducing malware. Precinct Central has a well thought out networking scheme that allows it to connect to a secure Cloud repository through a secure WiFi network. Each Touchpad is capable of connecting to a local WiFi and can download/upload a database from a local FTP, or the data can be exported directly from the pollbooks to our Secure Precinct Central Server from the field, or the Elections Office/Warehouse

Title and Identifier	Page Number	Compliance: Yes/No	Comments on Potential Requirement
FR-24: Supplemental local voter database.	27	No	USB ports have the possibility of introducing malware. Precinct Central has a well thought out networking scheme that allows it to connect to a secure Cloud repository through a secure WiFi network and receive a secure over the air data push to receive the supplemental data file. Tenex also offers the option to put the supplemental data on QR Codes and these can be delivered to the voting location and scanned with the camera on the pollbook. This information will be sent to the rest of the pollbooks in that location.
FR 25: Deliberately left blank.	27		
FR-26: The electronic poll book must not change invariant data	27	Yes	
FR-20: As a part of the local voter database import, the electronic poll book system must require the user to confirm that they are importing the intended local voter database.	19	Yes	
HIR-1: USB port.	20	No	USB ports have the possibility of introducing malware. Precinct Central has a well thought out networking scheme that allows it to connect to a secure Cloud repository through a secure WiFi network. Each Touchpad is capable of connecting to a local WiFi and can download a database from a local FTP.

Title and Identifier	Page Number	Compliance: Yes/No	Comments on Potential Requirement
HIR-2: Card reader.	21	No	Precinct Central Touchpad does not use a Card Reader.
			 Voter searches can be performed using a variety of methods: Driver's License/State ID Card: The built-in camera is used to scan the 2D barcode on the ID and automatically lookup voter information. This method has been benchmarked with two-second data retrieval across 900,000+ voters. State ID Number: The state ID number can be typed or a barcode can be scanned using the built-in camera from documents such as a voter ID card or sample ballot. Other lookup methods: A combination of other data fields such as voter name and birth date can be used to locate voters. All fields support partial and wild card searching, such as searching by birth year and partial last and first name.
PR-1: <i>Electronic poll book</i> capacity during peak usage.	28	Yes	
PR-2: Voter throughput per <i>EPB</i> .	28	Yes	
PR-3: Voter list export.	28	Yes	
PR-4: Voter list import.	28	Yes	
PR-5: Electronic poll book system setup.	29	Yes	

Title and Identifier	Page Number	Compliance: Yes/No	Comments on Potential Requirement
PR-6: <i>Electronic poll book</i> boot up and configuration.	29	Yes	
PROCR-1: Vendor to provide two <i>electronic poll book systems</i> .	17	Yes	What does the State of New Hampshire consider two complete working systems?
PROCR-2: Vendor to provide list of customers.	18	Yes	
PROCR-3: Vendor to provide list of known anomalies.	18	Yes	
PROCR-4: Compiling, importing, and exporting <i>local voter database</i> .	18	Yes	
PROCR-5: Vendor to provide a pre-use fitness test for the <i>electronic</i> poll book system.	18	Yes	
PROCR – 6: Vendor to suggest trial format that enables check of EPB accuracy against marked paper checklist.	17	Yes	
PROCR – 7: Vendor to suggest trial format that enables check of EPBS in the event of failure of electronic components.	17	Yes	
RR-1.1: Voter check-in during interruption of connectivity.	29	Yes	Tenex ePollbooks are not reliant upon connectivity to check-in voters.
RR-1.2: Upon restoration of connectivity.	29	Yes	

Title and Identifier	Page Number	Compliance: Yes/No	Comments on Potential Requirement
RR-1.3: Identify double voting.	29	Yes	
RR-1.4: Indicate interruption of connectivity.	30	Yes	
RR-2: Loss of power.	30	Yes	
RR-3: Data recovery.	30	Yes	
RR-4: Simultaneous data storage.	30	Yes	
RR-5: Local voter database replicas.	30	Yes	
RR-6: Local voter database replica consistency.	30	Yes	
RR-7: Operational consistency.	31	Yes	
RR-8: Environmental robustness.	31	Yes	
SR-1: <i>EPBS</i> must prevent injury or damage.	31	Yes	
SR-2: Isolation from other electronic election systems.	32	Yes	
SR-3: Restricted access and communications.	32	Yes	
SR-4: Eavesdropping attack prevention.	32	Yes	

Title and Identifier	Page Number	Compliance: Yes/No	Comments on Potential Requirement
SR-5: Man-in-the-middle attack prevention.	32	Yes	
SR-6: Replay attack prevention.	32	Yes	
SR-7: Imports restricted to HIR-1 (USB port).	32	No	USB ports have the possibility of introducing malware. Precinct Central has a well thought out networking scheme that allows it to connect to a secure Cloud repository through a secure WiFi network. Each Touchpad is capable of connecting to a secure local WiFi and can import a database from Precinct Central Console. Precinct Central has the ability to create QR Codes that can be scanned securely into each pollbook.
SR-8: HIR-1 (USB port) restrictions.	33	No	USB ports have the possibility of introducing malware. Precinct Central has a well thought out networking scheme that allows it to connect to a secure Cloud repository through a secure WiFi network.
SR-9: File format verification.	33	Yes	
SR-10: File authenticity verification.	33	Yes	
SR-11: Signed exports.	33	Yes	
SR-12: Use by account holders only.	33	Yes	
SR-13: User roles.	34	Yes	
SR-14: Access to UI-1 (authorized EPBS user interface).	34	Yes	

Title and Identifier	Page Number	Compliance: Yes/No	Comments on Potential Requirement
SR-15: Access to UI-2 (configuration interface).	34	Yes	
SR-16: Access to UI-3 (diagnostic interface).	34	Yes	
SR-17: Access to UI-4 (administrative interface).	34	Yes	
SR-18: Access to UI-5 (local voter database).	34	Yes	
SR-19: File integrity verification	35	Yes	
SR-20: Tamper evident cases.	35	Yes	
UIR-1: Ballot clerk and Supervisor of the checklist interface.	19	Yes	
UIR-2: Configuration interface.	19	Yes	
UIR-3: Diagnostic interface.	20	Yes	
UIR-4: Administrative interface.	20	Yes	
UIR-5: Local voter database interface.	20	Yes	
UR-1: Ease of use.	37	Yes	

6 Appendices

The EPBS must incorporate the processes described in the following two documents, pursuant to RSA 659:13 and RSA 659:14.

Ballot Clerk Procedures - Primary

Ballot Clerk Procedures – General

These documents can be found on http://sos.nh.gov/ElecOff.aspx

[end]